Tetra Tech EM Inc.

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January 31, 2005

Mr. Nabil Fayoumi
Remedial Project Manager (SR-6J)
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Subject: **Technical Review Comments on "Technical Memorandum on Pre-Excavation Sampling of Bottom Soils, Dead Creek Sectors D and F"**
Sauget Area 1 Site
Sauget and Cahokia, St. Clair County, Illinois
Technical Direction Document No. S05-0409-005
U.S. EPA Contract No. 68-W-00-129

Dear Mr. Fayoumi:

The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) has reviewed the above-referenced document as part of its oversight activities for the Sauget Area 1 site in Sauget and Cahokia, St. Clair County, Illinois. The document, which is dated January 21, 2005, was received by START on January 26, 2005, and was prepared by Solutia, Inc., the potentially responsible party for the site. The document presents the results of the sampling recently performed in Dead Creek Sectors D and F in Sauget Area 1. Also, the document presents proposed excavation limits for removing contaminated soil from Dead Creek Sectors B, D, and F.

START's review of the document focused on assessing its technical adequacy. START's comments on the document are enclosed. An e-mail message will be transmitted to you that contains the comments formatted in WordPerfect 9.0. The hard copy comments constitute START's official deliverable.

If you have any questions regarding START's comments, please call me at (312) 856-8789.

Sincerely,

Rick Hersemann
Tetra Tech START Project Manager

Enclosure

cc: Lorraine Kosik, U.S. EPA START Project Officer (letter only)
Therese Gioia, Tetra Tech START Program Manager (letter only)

ENCLOSURE

TECHNICAL REVIEW COMMENTS ON
"TECHNICAL MEMORANDUM ON PRE-EXCAVATION SAMPLING OF BOTTOM SOILS,
DEAD CREEK SECTORS D AND F"
SAUGET AREA 1 SITE
SAUGET AND CAHOKIA, ST. CLAIR COUNTY, ILLINOIS

(Two Pages)

TECHNICAL REVIEW COMMENTS ON
"TECHNICAL MEMORANDUM ON PRE-EXCAVATION SAMPLING OF BOTTOM SOILS, DEAD CREEK SECTORS D AND F"
SAUGET AREA 1 SITE
SAUGET AND CAHOKIA, ST. CLAIR COUNTY, ILLINOIS

GENERAL COMMENT

1. The analytical results for the additional soil samples collected in Dead Creek Sectors D and F will be useful in defining excavation limits. However, the previous sampling event occurred 2 years ago, and since that time some contaminants may have migrated downstream during storm events. No downstream samples were collected during the 2004 sampling event to assess this possibility. Collection of downstream soil samples should be considered.

SPECIFIC COMMENTS

1. **Option 1, CS-D, Page 5, Paragraph 1.** The text states that the creek bottom will be excavated between transects T5 and T6 based on the results of the 2004 sampling event. However, the text omits the fact that polychlorinated biphenyls (PCB) were found at transect T6, which would require excavation past that sampling point. No sample was collected from the area just south of transect T6. PCBs may have migrated to this area because it is downstream from transect T6, which had a PCB concentration of 2.437 milligrams per kilogram. It appears that the creek should be excavated from transect T5 to Jerome Lane. The text should be revised to address this issue.

2. **Option 1, CS-B, Page 5, Paragraph 3.** The text discusses shallow groundwater elevation data. The text states that "these data suggest that the water table is currently at, or above the creek bottom and no excavation need to be done if the criteria defined in the Work Plan are strictly applied." It should be noted that when the work plan was prepared, the water table was below the creek bottom. The intent for Dead Creek is to remove as much contaminated soil as possible. The limiting factor is the volume available in the containment cell, not the high water table. Therefore, the statement in the text should be reconsidered. Also, because Sector B is subject to high water levels during periods of high groundwater elevations, contaminants have probably

migrated during such periods. If historical water table data are available, it would be beneficial to determine what part of the year the groundwater table is low and to schedule soil excavation for that time so that dewatering is not necessary. In addition, more soil samples should be collected at depth to better define the PCB contamination in Sector B. The text should be revised to address these issues.

3. **Option 2, Pages 6 and 7.** First, the text states that the creek banks are steep with slopes of 2:1 and 3:1 and that settlement-sensitive structures are present within 30 feet of the top of the creek banks. The text should specify what types of structures these are and what types of foundations they have. Also, bank slopes of 2:1 and 3:1 in a dry creek are not considered to be steep. Normally, excavating to a depth of 4 to 5 feet at such a location should not pose any problems. However, if the excavation will remain open for a long period, some bank protection may be required. Typically, creek excavations are backfilled with clean soil soon after contaminated soil has been removed.

Second, the text states that a high-pressure petroleum pipeline runs "within feet" of the creek bank. No specific distance is given, and this pipeline is not shown on the design drawings. Pipelines can be protected during excavation without much problem, and normally pipelines are installed a safe distance from creek or river banks. Excavating soil in the bottom of the creek should not have a major impact on the petroleum pipeline.

Third, the text states that the containment cell will be "more intrusive" if option 2 is selected over option 1. The containment cell was constructed for the specific purpose of containing contaminated soil. Because approximately 19,000 cubic yards of volume is available in this cell, as much of the contaminated soil as possible should be excavated and placed in the cell. Once the cell is capped and properly landscaped it should not appear any more "intrusive" than it already is. Removing contaminated soil from the creek will better serve the community and the environment than making the containment cell lower and less "intrusive."

The text should be revised to address this comment and incorporated into the original work plan. Also, the design drawings should be revised to address this comment and resubmitted to the U.S. Environmental Protection Agency for review.